## AMENDMENTS TO THE CLAIMS

Please amend the claim set as shown below:

1. (cancelled)

Please cancel claims 2-5, 19 and 21.

2. (cancelled) ~~A bead molding ring according to claim 1~~ 3, ~~wherein:~~

~~the first outside diameter is less than or equal to the inside diameter of an unmolded bead that is to be molded by the bead molding ring.~~

3. (cancelled) ~~A bead molding ring for a tire mold in a mold press that is configured to mold a green tire comprising a tread, two beads and two sidewalls extending between the beads and the tread; the bead molding ring characterized in that:~~

~~the bead molding ring comprises a plurality of segments, half of the segments being first segments that are complementary to, and circumferentially alternated with second segments;~~

~~the first segments are wedge shaped, having circumferentially lateral faces that converge towards a radially outward facing bead molding surface of the bead molding ring, the first segment lateral faces being planar and oriented in an axial direction;~~

~~the second segments have lateral faces that are complementary to the first segment lateral faces;~~

~~means are provided for radially expanding the bead molding ring from a first outside diameter to a second outside diameter, thereby forming a circumferentially continuous radially outward facing surface for molding one of the beads;~~

~~radially aligned guide rods movably connect each of the first and second segments to a surrounding sidewall plate of the mold for restricting first and second segments to radial movement only; and~~

~~spring means press radially inward on the first and second segments.~~

4. (cancelled) ~~A bead molding ring according to claim3, further characterized by:~~

~~a cam surface on the radially inner portion of the first and second segments of the bead molding ring, wherein the cam surface slopes radially inward and axially outward at a cam angle to form an annular surface complementary to a frustraconical section; and~~

~~a cam attached to an axially moving part of the mold press such that the cam interacts with the cam surfaces of at least the first segments to wedge the first segments radially outward as the cam moves in an axial direction.~~

5. (cancelled) ~~A bead molding ring according to claim 4, further characterized in that:~~

~~the cam is a ring with a frustraconical radially outer cam surface that has a cam angle that matches the cam angle of the cam surfaces of the bead molding ring.~~

6. (cancelled)

7. (previously amended) A mold for a green tire comprising a tread, two beads each having a radially inward-facing bead base extending from an axially outer heel to an axially inner toe, and two sidewalls extending between the beads and the tread; the mold comprising:

first and second sidewall plates for molding, respectively, an outer surface of each of the sidewalls plus an axially outer portion of each of the beads approximately in to the heel;

first and second bead molding rings for molding at least the bead bases of the two beads; and

an inflatable vulcanizing membrane for molding the inside surfaces of the tire;

wherein at least a first bead molding ring is characterized in that:

the first bead molding ring comprises a plurality of segments, half of the segments being first segments that are complementary to, and circumferentially alternated with second segments;

the first segments are wedge shaped, having circumferentially lateral faces that converge towards a radially outward-facing bead molding surface of the first bead molding ring, the first

segment lateral faces being planar and oriented in the axial direction;

the second segments have lateral faces that are complementary to the first segment lateral faces;

means are provided for radially expanding the first bead molding ring from a first outside diameter to a second outside diameter, thereby forming a circumferentially continuous radially outward-facing surface for molding one of the beads in cooperation with an adjacent first sidewall plate and the vulcanizing membrane;

guide rods restrict first and second segments to radial movement only; each guide rod being mounted in a radially aligned mounting hole bored in a one of the first and second segments, and each mounting hole being aligned with a guide hole bored in the adjacent first sidewall plate such that the guide rod slides within the radially-aligned guide hole; and

springs are preloaded to force radially-inward movement of the first and second segments; each spring residing in a radially aligned spring holding hole bored in the adjacent first sidewall plate and aligned with a spring pocket cut in an adjacent one of the first and second segments, so that a spring can be positioned with one end in the spring holding hole and the other end in an adjacent spring pocket.

8. (original) A mold according to claim 7, further characterized by:

an assembly comprising the first sidewall plate, all of the plurality of first segments and second segments, all of the guide rods, and all of the springs;

wherein the assembly is held together by stop bolts extending from a side of at least one of the guide rods, each stop bolt protruding into a cavity adjoining a portion of the corresponding guide hole.

9. (previously amended) A mold according to claim 7, further characterized by:

a cam surface on the radially inner portion of the first and second segments of the bead molding ring, wherein the cam surface slopes radially inward and axially outward at a cam angle to form an annular surface complementary to a frustraconical section; and

a cam attached to an axially-moving part of the mold press such that the cam interacts with the cam surfaces of at least the first segments to wedge the first segments radially outward as the cam moves in an axial direction.

10. (original) A mold according to claim 9, further characterized in that:

the cam is a ring with a frustraconical radially outer cam surface that has a cam angle that matches the cam angle of the cam surfaces of the bead molding ring.

11. (original) A mold according to claim 10, further characterized in that:

the cam is attached to a clamp ring for clamping one end of the vulcanizing membrane.

12. (previously amended) A mold according to claim 7, further characterized in that:

the second bead molding ring is structurally equivalent to the first bead molding ring, such that the second bead molding ring is characterized in that:

the second bead molding ring comprises a plurality of segments, half of the segments being first segments that are complementary to, and circumferentially alternated with second segments;

the first segments are wedge shaped, having circumferentially lateral faces that converge towards a radially outward-facing bead molding surface of the first bead molding ring, the first segment lateral faces being planar and oriented in the axial direction;

the second segments have lateral faces that are complementary to the first segment lateral faces;

means are provided for radially expanding the second bead molding ring from a first outside diameter to a second outside diameter, thereby forming a circumferentially continuous radially

outward-facing surface for molding one of the beads in cooperation with an adjacent second sidewall plate and the vulcanizing membrane;

guide rods restrict first and second segments to radial movement only;

each guide rod being mounted in a radially aligned mounting hole bored in a one of the first and second segments, and each mounting hole being aligned with a guide hole bored in the adjacent second sidewall plate such that the guide rod slides within the radially-aligned guide hole; and

springs are preloaded to force radially-inward movement of the first and second segments;

each spring residing in a radially aligned spring holding hole bored in the adjacent second sidewall plate and aligned with a spring pocket cut in an adjacent one of the first and second segments, so that a spring can be positioned with one end in the spring holding hole and the other end in an adjacent spring pocket.

13. (previously amended) A mold according to claim 7, further characterized in that:

the second bead molding ring is a non-segmented, non-expandable, continuous ring that is movably attached to the center post of the mold.

14. (previously amended) A mold according to claim 13, wherein the tire to be molded has asymmetric bead diameters such that a first bead has a first bead diameter and a second bead has a second bead diameter less than the first bead diameter, the mold further characterized in that:

the second bead molding ring has an outside diameter sized for molding the second bead; and

the retractable first bead molding ring has the retracted first outside diameter less than or equal to the first bead diameter, and the expanded second outside diameter is sized for molding the first bead.

15. (previously amended) A mold according to claim 7, further characterized in that:

the first and second bead molding rings are shaped for molding beads with undercut bead bases.

16. (cancelled)

17. (cancelled)

18. (cancelled)

19. (cancelled) ~~Method according to claim 21, further comprising the step of:~~

~~composing the retractable bead molding ring of circumferentially alternated first segments and second segments such that:~~

~~radial expansion of the first segments causes radial expansion of the second segments.~~

20. (cancelled)

21. (cancelled) ~~Method for molding a green tire comprising a tread, first and second beads, and two sidewalls extending between the beads and the tread; the method comprising the steps of:~~

~~loading the tire into a mold comprising first and second bead molding rings, the first bead molding ring being a retractable bead molding ring that is assembled together with a sidewall molding plate, and the second bead molding ring being a non-expandable, continuous ring that is attached to a center post of the mold;~~

~~passing an unmolded first bead of the tire firstly over the second bead molding ring and secondly over the retractable first bead molding ring while the retractable first bead molding ring is retracted to an outside diameter that is less than or equal to the inside diameter of the unmolded first bead;~~

~~using axial movement of a portion of the mold press for driving radially outward only expansion of the retractable first bead molding ring to engage the unmolded first bead; and~~

~~expanding a vulcanizing membrane inside the tire to draw the second bead into engagement~~

~~with the second bead molding ring.~~